

REMARKS

Claims 14-18 are pending. Claim 14 has been amended to clarify the subject matter. Support for this amendment can be found, for example, in Fig. 4. No new matter has been added.

Applicants' remarks, below, are preceded by quotations of the related comments of the Examiner in small, boldface type.

Claim Rejections – 35 USC § 102

Claims 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,099,306 (hereafter Dunaway).

Dunaway discloses, referring to figure 10, an encapsulated circuit comprising a substrate (86) having two faces and perimeter sides around the faces, a circuit formed on the substrate, conductive pads (100, 102) formed on a portion of one of the faces near one of the sides and connected to the circuit, and an integrally formed encapsulating (112, 113) mass which encapsulates all of the one face except in the region of the pads, all of the other face except in a region opposite to the region of the pads, and all of the sides [claim 14], wherein the circuit includes electronic components mounted on both faces of the substrate and encapsulated in the encapsulating mass [claim 15], wherein the conductive pads are formed on portions of the one face near the sides and the encapsulating mass encapsulates all of the one face except in the regions of the pads [claim 16], wherein the conductive pads are formed on a portion of the other face near one of the sides and the encapsulating mass encapsulated all of the other face except the region of the pads [claim 17], wherein the conductive pads are formed on portions of the other face near the sides and the encapsulating mass encapsulated all of the other face except the regions of the pads [claim 18].

Applicants respectfully disagree. Amended claim 14 requires, among other things, “an integrally formed *encapsulating mass which encapsulates* all of the one face except in the region of the pads, all of the other face except in a region opposite to the region of the pads, and *all of the sides except the one side in the region of the pads.*” The Dunaway patent fails to teach or suggest these aspects of the claim.

The Dunaway patent shows an enclosure “comprising first and second enclosure members 112, 113, which form a **chamber around** semiconductor chip 88” as shown in Figs. 9 and 10. (See column 10, lines 65 to 68). The office action identifies leadframe 86 of the Dunaway patent as the claimed substrate. The Dunaway patent shows that portions of the leadframe 86 (e.g. 100, 102 in Figs. 9 and 10) extend beyond the enclosure members 112, 113. The Dunaway enclosure members 112, 113 do **not encapsulate any** of the sides of the leadframe

86. Therefore, even assuming that the leadframe 86 could satisfy the claim requirements for the substrate, which applicants specifically deny, the Dunaway enclosure fails to "encapsulate all of the sides except the one side" of the substrate as claimed.

Claim 14 is patentable for at least these reasons. All other dependent claims depend from independent claim 14 and are patentable for at least the same reasons discussed above.

Applicant asks that all claims be allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

US 5,600,181	Scott et al.,
US 5,834,836	Park et al.
US 6,351,030	Havens et al.

The above references were not applied to the claims, however, applicants note that these references also fail to teach or suggest the claimed invention for at least the following reasons. For example, the Scott patent **completely** seals pads 17 with encapsulating layer 32. (See Figs. 2 and 4) The Park patent **completely** encloses inner leads 4 in the package body 6. (See Fig. 1) Similarly, the Havens package covers **all** of the external surfaces of the substrate 3. (See Fig. 4 and abstract) The cited references all fail to teach or suggest applicants' claims.